

Weekly Coal Production

Production for Week Ended:
March 9, 1991



Energy
Information
Administration



See State
Coal Profile

Preface

The *Weekly Coal Production (WCP)* provides weekly estimates of U.S. coal production by State. Supplementary data are usually published monthly in two supplements: the Coal Exports and Imports Supplement and the Domestic Market Supplement. The Coal Exports and Imports Supplement contains detailed monthly data on U.S. coal and coke exports and imports. The Domestic Market Supplement contains detailed monthly electric utility coal statistics, by Census Division and State, for generation, consumption, stocks, receipts, sulfur content, prices, and the origin and destination of coal shipments. This supplement also contains summary-level, monthly data for all coal-consuming sectors on a quarterly basis.

Preliminary coal production data are published quarterly, based on production data collected using Form EIA-6, "Coal Distribution Report." Based on 1988 and 1989 data, the coal production estimation error for a quarter at the national level (i.e., the difference between the sum of the weekly estimates for a quarter and the quarterly EIA-6 preliminary data) ranges from 1 percent to 4 percent for 1988 and 1 percent to 2 percent for 1989.

Final coal production data are published annually, based on the EIA-7A coal production survey. Based

on 1988 and 1989 data, the revision error for a quarter at the national level (i.e., the difference between the EIA-6 preliminary data and the EIA-7A final data) ranges from 0.02 percent to 0.08 percent for 1988 and 0.09 percent to 0.14 percent for 1989.

This publication is prepared by the Coal Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration (EIA) to fulfill its data collection and dissemination responsibilities as specified in the Federal Energy Administration Act of 1974 (P.L. 93-275) as amended. *Weekly Coal Production* is intended for use by industry, press, State and local governments, and consumers. Other publications that may be of interest are the quarterly *Coal Distribution*, the *Quarterly Coal Report*, *Coal Production 1989*, and *Coal Data: A Reference*.

This publication was prepared by Wayne M. Watson and Michelle D. Bowles under the direction of Mary K. Paull and Noel C. Balthasar, Chief, Data Systems Branch. Specific information about the *State Coal Profile: Ohio* may be obtained from John R. Moens at 202/254-5388 and Chris V. Buckner at 202/254-5368. *Questions on energy statistics should be directed to the National Energy Information Center (NEIC) at 202/586-8800.*

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American Electric Power Service
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State Coal Profile

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Summary

U.S. coal production in the week ended March 9, 1991, as estimated by the Energy Information Administration, totaled 20 million short tons, about the same as in the previous week, and in the comparable week

in 1990. Production east of the Mississippi River totaled 12 million short tons, and production west of the Mississippi River totaled 9 million short tons.

Figure 1. Coal Production

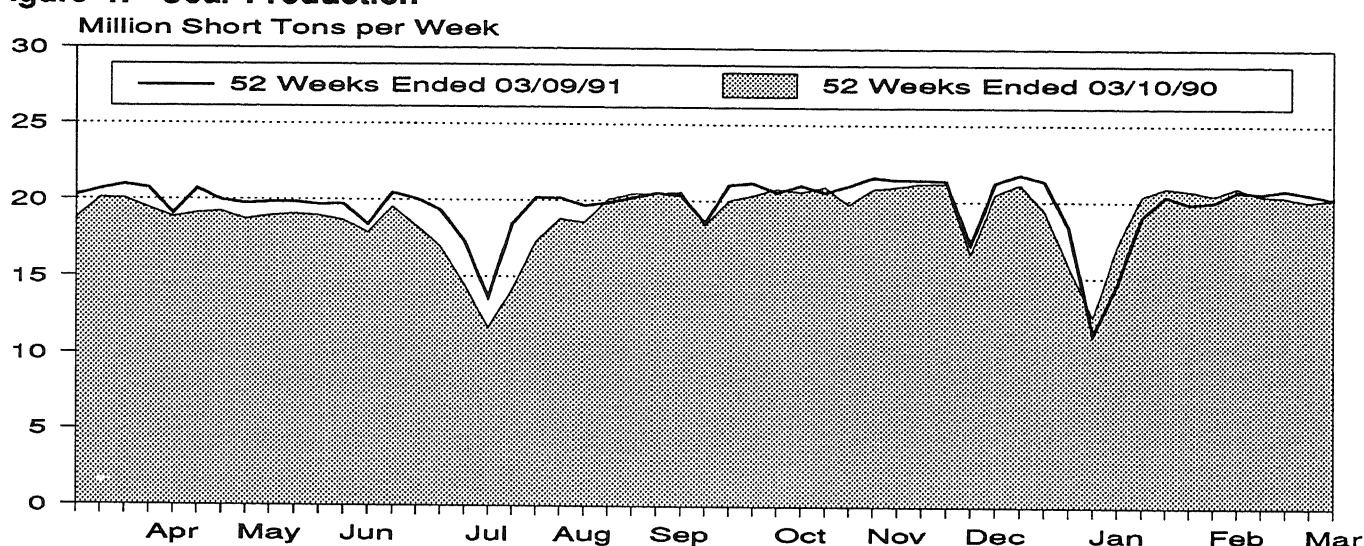


Table 1. Coal Production

	Week Ended			52 Weeks Ended		
Production and Carloadings	03/09/91	03/02/91	03/10/90	03/09/91	03/10/90	Percent Change
Production (Thousand Short Tons)						
Bituminous ¹ and Lignite	20,211	20,508	20,210	1,025,088	990,200	3.5
Pennsylvania Anthracite	48	54	53	3,062	3,196	-4.2
U.S. Total	20,260	20,561	20,263	1,028,150	993,397	3.5
Railroad Cars Loaded	128,386	130,478	129,049	6,646,266	6,441,567	

¹Includes subbituminous coal.

Notes: All data are preliminary. Totals may not equal sum of components because of independent rounding.

Sources: Association of American Railroads, Transportation Division, Weekly Statement CS-54A; Energy Information Administration, Form EIA-6, "Coal Distribution Report"; Form EIA-7A, "Coal Production Report"; and State mining agency coal production reports.

Table 2. Coal Production by State
(Thousand Short Tons)

Region and State	Week Ended		
	03/09/91	03/02/91	03/10/90
Bituminous Coal¹ and Lignite			
East of the Mississippi	11,504	11,996	12,676
Alabama	507	516	564
Illinois	1,283	1,243	1,246
Indiana	678	743	759
Kentucky	3,042	3,199	3,384
Kentucky, Eastern	2,370	2,455	2,525
Kentucky, Western	672	744	859
Maryland	57	60	71
Ohio	664	694	721
Pennsylvania Bituminous	1,123	1,297	1,498
Tennessee	139	136	133
Virginia	860	845	1,043
West Virginia	3,151	3,263	3,258
West of the Mississippi	8,708	8,512	7,534
Alaska	33	34	29
Arizona	233	236	243
Arkansas	*	*	*
Colorado	406	339	374
Iowa	7	7	7
Kansas	17	17	18
Louisiana	60	52	61
Missouri	44	45	54
Montana	816	785	691
New Mexico	466	521	443
North Dakota	672	646	556
Oklahoma	31	30	35
Texas	1,077	1,094	1,049
Utah	451	385	442
Washington	112	114	96
Wyoming	4,282	4,206	3,436
Bituminous¹ and Lignite Total	20,211	20,508	20,210
Pennsylvania Anthracite	48	54	53
U.S. Total	20,260	20,561	20,263

¹Includes subbituminous coal.

*Less than 0.5 thousand short tons.

Notes: All data are preliminary. Totals may not equal sum of components because of independent rounding.

Sources: Association of American Railroads, Transportation Division, Weekly Statement CS-54A; Energy Information Administration, Form EIA-6, "Coal Distribution Report"; Form EIA-7A, "Coal Production Report"; and State mining agency coal production reports.

State Coal Profile: Ohio

Total Area of State:

41,222 square miles

Area Underlain by Coal:

10,000 square miles

Demonstrated Reserve Base of Coal: (January 1, 1990)

19 billion short tons
(4 percent of U.S. total)

First Year of Documented Coal Production:

1800 (100 short tons)

Peak Year of Coal Production:

1970 (55 million short tons)

1989 Coal Production:

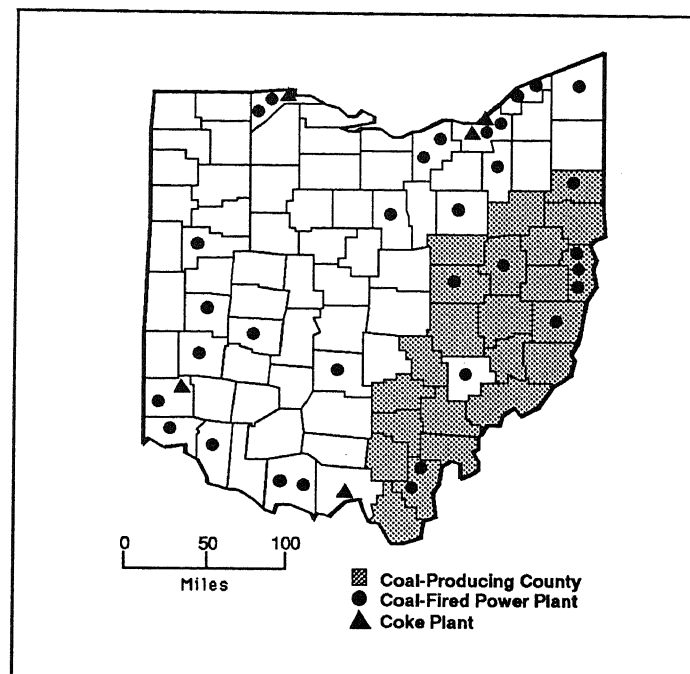
34 million short tons
(3 percent of U.S. total)

1989 f.o.b. Mine Price:

\$30.49 per short ton
(U.S. average = \$21.82)

1989 Coal Consumption:

61 million short tons
(7 percent of U.S. total)



1990 Coal Exports through Cleveland Customs District:

10 million short tons
(10 percent of U.S. total)

	<u>Number</u>	<u>Percentage of U.S. Total</u>
Number of Mines (1989)	184	5
Underground	14	<1
Surface	170	9
Number of Miners (1989) (at mines producing more than 10,000 short tons)	7,374	6
Underground	2,953	4
Surface	4,421	9
Average Quality of Utility Coal Receipts (1989)	<u>Ohio</u>	<u>U.S. Average</u>
Heat Content (million Btu per short ton)	23.7	20.9
Sulfur Content (percent by weight)	2.5	1.3
Ash Content (percent by weight)	11.5	9.9

Coal is the most valuable mineral resource in Ohio. Coal production in 1989 was valued at about \$1 billion, representing more than 40 percent of the total value of all minerals produced in the State, including crude oil and natural gas.

The coal reserves of Ohio consist entirely of bituminous coal, and are located in the eastern part of the State. As mined, the coal has a heat content ranging from 16 to 28 million Btu per short ton, a sulfur content from 1 to 10 percent by weight, and an ash content of 2 to 40 percent by weight. Among the 20 coalbeds currently mined, the principal three are the Pittsburgh, the Sewickley, and the Middle Kittanning. Together these coalbeds account for more than half of the State's total production.

Coal production in Ohio began in the 1800's, with coal being first used as a source of household heat during the winter. Later, coal was used by small industries, such as blacksmithing and brickmaking, and as a fuel for evaporating brine in the salt industry. In 1827, flatboats carried the first shipments of coal to Cleveland via the Ohio-Erie Canal for use in steamboats. As early as 1835, when production was less than 53,000 short tons, coal was shipped down the Ohio and Mississippi Rivers for use in sugar refineries at New Orleans. By 1875, due to the canal systems and the expansion of the railroads across the State, coal production rose to more than 5 million short tons.

The presence of coal suitable for use in blast furnaces plus the occurrence of iron ore and limestone gave a tremendous impetus to both coal mining and the development of the iron and steel industry in the State. Scores of furnaces were built throughout eastern and southeastern Ohio in the middle and late 1800's. Increasing quantities of coal were also mined for heating purposes. By the end of World War I in 1918, coal output had risen to 46 million short tons.

From the 1920's until World War II, coal production in Ohio was on a downward trend, reaching the lowest level in this century (14 million short tons) in 1932. This decline was due partly to the Depression, and partly to the greater use of oil and natural gas by both industrial and residential consumers. The industrial demand during World War II gave an impetus to the coal industry, and production trended upward over the next three decades to an all-time high of 55 million short tons in 1970. Since then, Ohio's coal output, with its high sulfur content, has been adversely affected by the enactment of clean air legislation. As a consequence, annual production has been on another downward trend to 34 million short tons in 1989.

Coal in Ohio is currently mined by both underground and surface methods. Underground

mining was the chief source of coal production until World War II, when surface production began to increase rapidly. In 1989, surface mining accounted for more than two-thirds of the coal produced. During that year, Ohio coal miner productivity averaged 2.5 short tons per hour at surface mines and 2.0 short tons at underground mines, both a little below the average for the Appalachian Region.

In 1989, Ohio coal consumption of 61 million short tons ranked second in the Nation. Coal consumption has declined from a record level of 73 million short tons in 1977, due to the drop in demand in the industrial sector. Electric utilities are the principal consumers, with 50 million short tons in 1989. Industrial use of coal in Ohio declined from 16 million short tons in 1980 to 10 million short tons in 1989, primarily due to a decline in the State's steel industry. Over the period, the number of coke plants dropped from 12 to 5, and consumption of coking coal fell by 50 percent to 5 million short tons. Nearly all of the coking coal consumed in Ohio came from Kentucky and West Virginia; less than 1 percent was produced in the State. The paper industry was the largest user in the manufacturing sector, with 1 million short tons, followed by primary metals, chemicals, and cement industries.

Trucks are the leading mode of transportation for coal in Ohio, moving nearly 12 million short tons in 1989. Ohio, a major terminus for coal barges since the early 19th century, is currently the only State to ship more coal by this mode than by rail. In 1989, barges carried 9 million short tons of coal, and tramways and conveyors carried 8 million short tons, while less than 4 million short tons were moved by train.

Although less than 1 million short tons of coal produced in Ohio were exported in 1990, more than 10 million short tons of coal produced in other States were exported through the Cleveland Customs District. This district, the third-largest coal-exporting district, handled 10 percent of the Nation's coal exports in 1990.

Coal-fired generation provided 90 percent of Ohio's electricity in 1989, with nuclear power generation accounting for nearly all of the remainder. To accommodate electricity demand and maintain stock levels, 24 million tons of Ohio coal was distributed to Ohio utilities in 1989. Although this figure represents 70 percent of the State's coal production, it represented only 45 percent of the coal required for electricity generation. Ohio utilities supplemented their supply with 28 million short tons of coal, chiefly from West Virginia and Kentucky.

Coal-fired electric generating units represent 85 percent of the State's net generating capability. In 1989, Ohio's coal-fired net summer generating

capability was about 22,000 megawatts out of a total capability of nearly 26,000 megawatts. The largest of the State's power plants are the Ohio Power Company's 2,600 megawatt coal-fired General James M. Gavin plant in Gallia County, and the Cleveland Electric Illuminating Company's J.M. Stuart plant in Adams County, with 2,340 megawatts of coal-fired capability.

Ohio has been involved in several innovative coal industry developments. For example, the first U.S. commercial coal slurry pipeline (Eastlake) was constructed in Ohio and operated from 1957 to its closing in 1963. In 1969, the world's largest walking dragline, "Big Muskie" was constructed. The mammoth dragline has a bucket capacity of 220 cubic yards and recently assisted in reclaiming a mining site near Zanesville, that will be converted into the International Center for the Preservation of Wild Animals.

Ohio's innovation continues with the William H. Zimmer Plant near Cincinnati, Ohio, due to come on line in the Spring of 1991. The plant, initially planned as an 800-megawatt nuclear plant, attracted international attention when it was redesigned as a coal-powered operation with a capability of 1,286 megawatts.

Several State and Federal clean coal programs are aimed at making Ohio's high-sulfur coal environmentally acceptable. One project, the Calderon Energy Company, in Alliance, Ohio, involves the production of methanol. Another project, at the Ohio State University, involves researching the in-duct spraying of coal. This process utilizes limestone to reduce sulfur emissions up to 40 percent. Both projects are funded by the Ohio Coal Development Office.

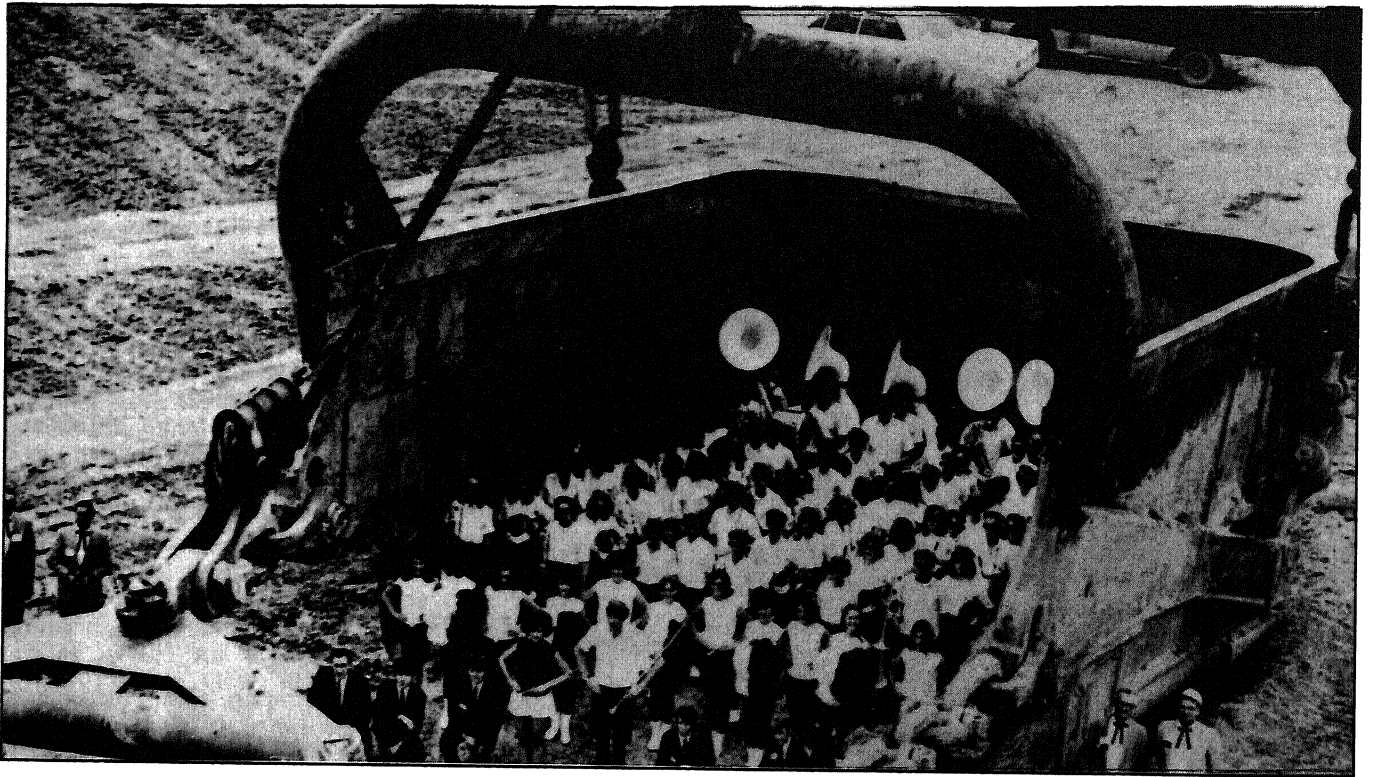
A third project, involving two phases, achieved its first significant environmental test results in April 1990 at the Ohio Edison Company's Edgewater plant in Lorain, Ohio. The project is part of the U.S. Department of Energy's Clean Coal Technology Program, a joint industry and government venture to demonstrate the clean and efficient burning of coal.

The Consolidation Coal Company developed the "Coolside" process used at the Edgewater plant. This process removes as much as 70 percent of the sulfur pollutants from the plant's exhaust gases. Following the success of the "Coolside" process, the Babcock & Wilcox Company has begun the second phase of the project, the commercial demonstration of a limestone injection process to reduce sulfur dioxide and nitrous oxide emissions. This demonstration is one of eight Ohio projects selected to receive Federal funding.

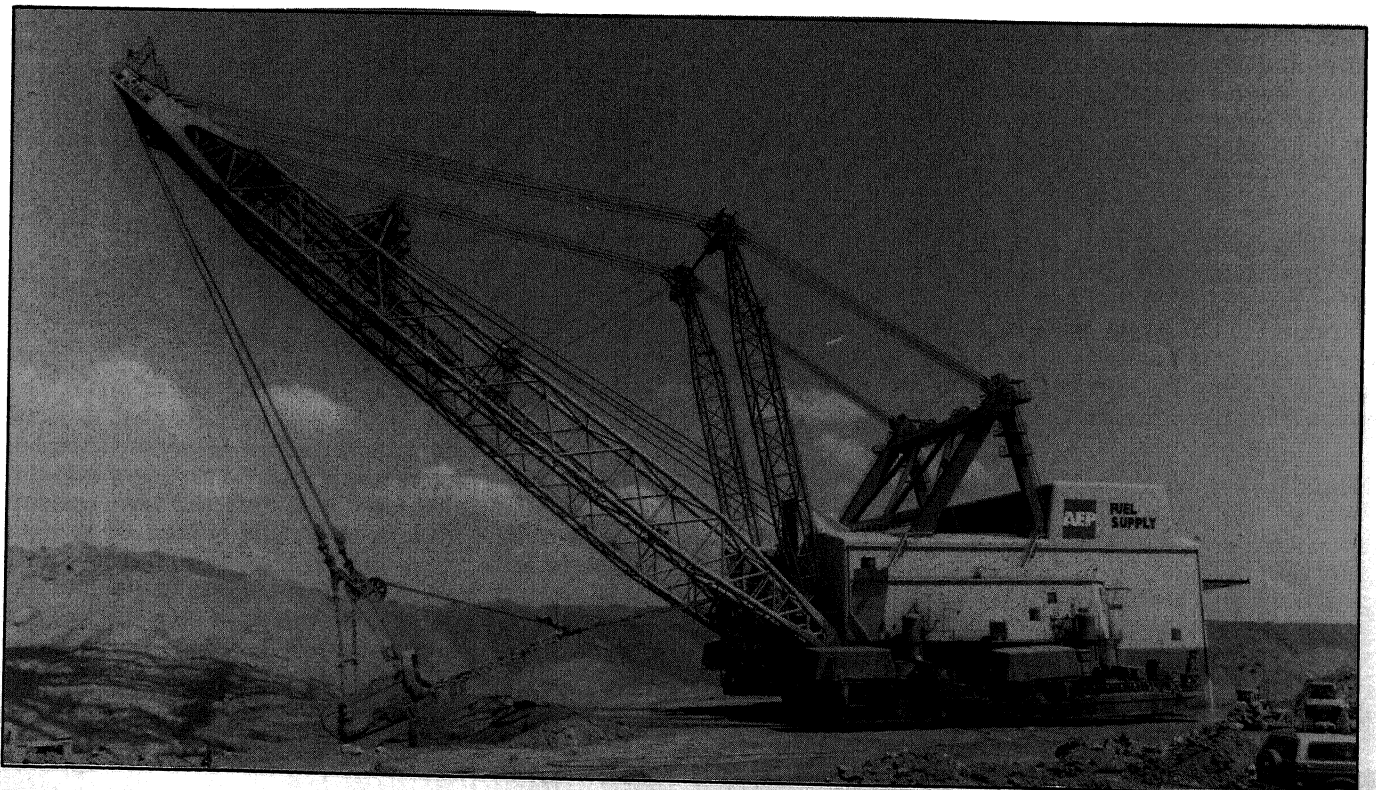
Ohio's coal production is expected to remain relatively stable over the next few years. Coal's dominance in the State's utility fuel market is expected to continue. Coal-fired generating units will account for 60 percent of the 2,086 megawatts of new capacity scheduled to come on line in Ohio by 1996.

References

Energy Information Administration, *Coal Production* (various issues); *Coal Distribution* (various issues); *Cost and Quality of Fuels for Electric Utility Plants 1989* (July 1990); *Inventory of Powerplants in the United States 1989* (September 1990); *Electric Power Annual* (various issues); *Electric Power Monthly* June 1990 (September 1990); *State Energy Data Report 1960-1988* (April 1990); Office of Fossil Energy, *Clean Coal Technology Demonstration Program: Third Annual Report to Congress* (March 1990); Bureau of Mines, U.S. Department of the Interior (various issues); State of Ohio, Report of Investment in the Ohio Coal Company; National Coal Association; by Mary Ann ... Business, ... (December ... (March ... State ...



The Morgan High School marching band stands at attention in the bucket of Central Ohio Coal Company's "Big Muscle," the largest walking dragline ever built.



EIA Coal Data and Coal Models on Tape and Electronic Access

Coal Data Tapes

The **Coal Distribution** data tapes contain annual data on coal shipments by origin, destination, consumer sector and mode of transportation as well as on coal production and producer/distributor stocks, beginning with 1980. Additional information is available from Steve Scott, (202) 254-5467.

The **Coal Production** data tapes contain annual data on production, average mine price, reserves, employment and productivity, beginning with 1979. Additional information is available from John G. Colligan, (202) 254-5465.

The **Quarterly Coal Report** data tape contains quarterly data on production, exports, imports, consumption, receipts, delivered prices and stocks, beginning with 1980. Additional information is available from Paulette Young, (202) 254-5481.

Coal Data By Electronic Access

Public access to coal data is available electronically by dialing (202) 586-8658. Communications are asynchronous at 300 or 1200 baud line speeds and require a standard ASCII-type terminal. (This service is free of charge).

Weekly Coal Production: This file contains current weekly coal production data. Additional information is available from Mary K. Paull, (202) 254-5379.

Quarterly Coal Report: This file contains comprehensive data on U.S. coal production, exports, imports, receipts, consumption and stocks. Additional information is available from T.C. Swann, (202) 254-5407.

Coal Model Tapes

The **Coal Supply and Transportation Model (CSTM)** is used to forecast coal production levels and coal transportation flows. The CSTM has been used to develop projections which appear in *Outlook for U.S. Coal Imports* and the *Annual Outlook for U.S. Coal* and served as the basis for an EIA report on rail deregulation and an EIA report on coal slurry pipelines.

CSTM projections will appear in the *Annual Energy Outlook 1991*, and were used in support of the National Coal Model (NCM) to provide analysis of the Clean Air Act Amendments of 1990. It also provides forecasts for several other EIA coal and multi-fuel reports. Additional information is available from Rich Newcombe, (202) 254-5370.

The **International Coal Trade Model (ICTM)** projects coal trade flows and represents all the major coal-exporting and coal-importing countries, as well as those with the potential to become major coal exporters. The ICTM is used to develop coal trade forecasts presented each year in *Annual Prospects for World Coal Trade*. In addition, ICTM projections served as the foundation for two recent service reports, *The Impact of Eliminating Coal Subsidies in Western Europe* and *Lower U.S. Mining Costs: Impact on World Coal Trade Projections*. Additional information is available from Fred Mayes, (202) 254-5409.

The **National Coal Model (NCM)** provides detailed projections of coal supply, transportation, and electric utility consumption. The NCM is primarily used to assess the consequences of proposed clean air legislation on the coal and electric utility industries, as in its use during 1990 to analyze impacts of the Clean Air Act Amendments. Additional information is available from B.D. Hong, (202) 254-5365.

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methods. These supply curves are used in the CSTM, ICTM, and NCM. Additional information is available from B.D. Hong, (202) 254-5365.

The **Short-term Coal Analysis System (SCOAL)** is a series of equations used to project quarterly coal production trends by State. SCOAL projections appear in the *Short-term Energy Outlook*, EIA's quarterly summary of energy demand and supply projections and the *Quarterly Coal Report*. Additional information is available from Fred Freme, (202) 254-5367.

The **PC-Coal Model** projects production, coal mine-mouth prices, and delivered coal prices for seven supply regions. This simplified model is available on diskette. Additional information is available from B.D. Hong, (202) 254-5365.

NOTE: To order coal model tapes or data tapes, or to learn more about them, contact the National Energy Information Center at (202) 586-8800.

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the government to the people.
the Constitution allowed
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